

REMARKS

After entry of the instant Amendment, claims 1, 2, 4, 7-12, and 15-24 are pending in the instant application, with claims 1, 7, 15, and 16 in independent form. Claim 15 is currently amended to bring language in the proviso statement into conformity with similar language of claims 7 and 16. Claims 17-24 are new. Support for the subject matter of new claims 17 and 22 can at least be found in paragraph [0025] of the original application as filed. Support for the subject matter of new claims 18, 21, and 23 can at least be found in paragraphs [0027] and [0028] of the original application as filed. Support for the subject matter of new claim 19 can at least be found in paragraph [0032] of the original application as filed. Support for the subject matter of new claims 20 and 24 can at least be found in paragraph [0045] of the original application as filed. No claims are currently cancelled. Because 11 claims were previously pending in the application, and 8 new claims are added (all dependent claims), the Applicants respectfully submit that no fees are presently due for the addition of the new claims.

The Applicants respectfully submit that the subject matter of each new independent claim presents an advancement over the prior art, and that the prior art does not disclose, teach, or suggest the subject matter of the new dependent claims. To explain, the subject matter of new claims 17 and 22 is significant because it is thought that adhesion may improve when the die attach adhesive composition contains reactive groups with which the curable liquid reacts. Further, the subject matter of new claims 18, 21, and 23 is significant because addition reaction curable silicone compositions may be used to minimize by-products formed when curing, as compared to the other types of curable liquid silicone compositions. The subject matter of claim 19 is significant because considerations with regard to cure speed that takes into account wire sweep under the liquid injection molding conditions, which are not accounted for in Bottini. The

subject matter of claims 20 and 24 is significant because the different gate configurations take into account the effect of supplying the curable liquid into the mold when the die is wire bonded or not wire bonded, which considerations are not accounted for in the prior art. Therefore, the Applicants respectfully submit that the subject matter of new claims 17-24 is both novel and non-obvious over the prior art relied upon by the Examiner to establish the current rejections, and is further novel and non-obvious over the prior art in general.

Claims 7-12, 15, and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hirano et al. (U.S. Pre-Grant Patent Pub. No. 2002/0153618) in view of Bottini (U.S. Patent No. 3,808,673). Claims 1 and 4 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Hirano et al. in view of Bottini, and further in view of Chaudhury et al. (U.S. Pre-Grant Patent Pub. No. 2003/0145940). Claim 2 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Hirano et al. in view of Bottini, and further in view of Chaudhury et al. and Takeuchi et al. (U.S. Patent No. 6,475,629). As set forth in detail below, the Applicants respectfully traverse all of the obviousness rejections that rely upon the combined teachings of Hirano et al. in view of Bottini on the basis that one of ordinary skill in the art would **not** have reasonably have been expected to practice the invention of independent claims 1, 7, 15, and 16 based upon the combined teachings of Hirano et al. and Bottini. The Applicants respectfully submit that teachings of Chaudhury et al. and Takeuchi et al. fail to remedy the deficiencies in the rejections based upon the Hirano et al. and Bottini such that the further rejections that rely upon Chaudhury et al. and Takeuchi et al. are also overcome.

The Applicants provide the relevant standards for establishing *prima facie* obviousness of the instant claimed. As the Examiner is likely aware, *Graham v. John Deere*, 383 US 1, 148 USPQ 459 (1966) provides the basic framework for performing obviousness analyses. As the

Examiner is also likely aware, the Supreme Court reaffirmed the standards set forth in *Graham v. John Deere* in the decision of *KSR International Co. v. Teleflex Inc.* (KSR), 550 U.S. ___, 82 USPQ2d 1385 (2007). It is well established that 35 U.S.C. §103 forbids issuance of a patent when “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1734, 82 USPQ2d 1385, 1391 (2007). In *KSR*, the Court noted that “[t]o facilitate review, this analysis should be made explicit.” *KSR*, 127 S.Ct. at 1740-41, 82 USPQ2d at 1396. (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness”). When making an obviousness rejection, Office personnel must therefore ensure that the written record includes findings of fact concerning the state of the art and the teachings of the references applied, and it is appropriate to include explicit findings as to how a person of ordinary skill would have understood prior art teachings, or what a person of ordinary skill would have known or could have done. See MPEP 2141(II). In fact, as succinctly summarized in MPEP 2141(II), the focus when making a determination of obviousness should be on what a person of ordinary skill in the pertinent art **would have known at the time of the invention, and on what such a person would have reasonably expected to have been able to do in view of that knowledge** (emphasis added). The above standards are consistent in spirit with the Examiner’s recitation that “one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references”, citing *In re Keller*, 642 F.2d 413, 208. Indeed, “[the prior art references] must be read, not in isolation, but for what it fairly teaches in combination with the

prior art as a whole”, citing *In re Merck & Co., Inc.*, 231 USPQ 375, 380 (CAFC 1986). In this regard, the ultimate obviousness analysis must clearly focus on what one of ordinary skill in the art would reasonably have been expected to do in view of the combined teachings of the prior art references at issue.

The Applicants previously argued that Hirano et al. discloses that wire sagging and wire flow are known problems in fabricating semiconductor devices. While it was argued that there is no motivation to remove required steps from the method of Bottini, such arguments can be recharacterized in terms of what one of ordinary skill in the art would reasonably have been expected to do in view of the combined teachings of Hirano et al. and Bottini given the fact that the Examiner has interpreted the prior arguments as attacking the references individually. To explain, Bottini involves application of a clear silicone composition and cure of the composition to form a junction coating resin over the subject semiconductor die **prior to the step of transfer molding taught therein**. However, Hirano et al. teaches transfer molding around a device that has exposed wires that are vulnerable to wire sagging during the transfer molding process. In this regard, the actual devices that are transfer molded between Hirano et al. and Bottini are different, with the specific devices of Hirano et al. requiring consideration of factors that could cause wire sagging during transfer molding. One of ordinary skill in the art would clearly have recognized the need to account for wire sagging during transfer molding of the devices of Hirano et al. such that knowledge of the particular molding parameters disclosed in Bottini would essentially be meaningless to a person of ordinary skill in the art because a different type of device that is free of exposed wires is molded in the process disclosed in Bottini. As such, one of ordinary skill in the art would have no reason to believe that the molding parameters disclosed in Bottini would be effective for the molding process disclosed in Hirano et al. Similarly, one of

ordinary skill in the art would have no basis for belief that the molding compositions disclosed in Bottini would be effective for the molding processes of Hirano et al. due to the differences between the structures in the devices that are molded in Hirano et al. and Bottini. As such, the Applicants respectfully submit that one of ordinary skill in the art would **not** have reasonably expected to have been able to practice the inventions of independent claims 1, 7, 15, and 16 in view of the combined teachings of Hirano et al. and Bottini. Further, neither Chaudhury et al. nor Takeuchi et al. remedy the deficiencies with regard to the rejections that rely upon Hirano et al. and Bottini such that the rejections that further rely upon teachings of Chaudhury et al. and Takeuchi et al. are also overcome.

The Applicants further note that the subject matter of new claims 17-24 is not disclosed, taught, or suggested by the prior art of record such that the current rejections have no applicability to those claims.

In view of the foregoing, the Applicants respectfully submit that independent claims 1, 7, 15, and 16 are both novel and non-obvious. As such, it is respectfully submitted that independent claims 1, 7, 15, and 16, as well as the claims that depend therefrom, are condition for allowance, which allowance is respectfully requested.

The instant Amendment is timely filed with the appropriate fee for a RCE. As set forth above, it is believed that no additional fees are presently due for the new claims added in the instant Amendment. However, the Commissioner is authorized to charge our Deposit Account No. 08-2789 for any fees or credit the account for any overpayment.

Respectfully submitted,

HOWARD & HOWARD ATTORNEYS, PLLC

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Date

/Christopher S. Andrzejak/

Christopher S. Andrzejak, Reg. No. 57,212

450 West Fourth Street

Royal Oak, MI 48067-2557

(248) 723-0438